

much also for the ornament and beauty of it, as will be most evident to any one that shall attentively consider the various kinds of cloathings wherewith most creatures are by Nature invested and cover'd. Thus I have observed, that the hair or furr of those Northern white Bears that inhabite the colder Regions, is exceeding thick and warm: the like have I observ'd of the hair of a *Greenland Deer*, which being brought alive to *London*, I had the opportunity of viewing; its hair was so exceeding thick, long and soft, that I could hardly with my hand, grasp or take hold of his skin, and it seem'd so exceeding warm, as I had never met with any before. And as for the ornamentative use of them, it is most evident in a multitude of creatures, not onely for colour, as the Leopards, Cats, Rhein Deer, &c. but for the shape, as in Horses manes, Cats beards, and several other of the greater sort of terrestrial Animals, but is much more conspicuous, in the Vestments of Fishes, Birds, Insects, of which I shall by and by give some Instances.

As for the skin, the *Microscope* discovers as great a difference between the texture of those several kinds of Animals, as it does between their hairs; but all that I have yet taken notice of, when tann'd or dress'd, are of a Spongie nature, and seem to be constituted of an infinite company of small long *fibres* or hairs, which look not unlike a heap of Tow or Okum; every of which *fibres* seem to have been some part of a Muscle, and probably, whil'st the Animal was alive, might have its distinct function, and serve for the contraction and relaxation of the skin, and for the stretching and shrinking of it this or that way.

And indeed, without such a kind of texture as this, which is very like that of *spunk*, it would seem very strange, how any body so strong as the skin of an Animal usually is, and so close as it seems, whil'st the Animal is living, should be able to suffer so great an extension any ways, without at all hurting or dilacerating any part of it. But, since we are inform'd by the *Microscope*, that it consists of a great many small filaments, which are implicated, or intangled one within another, almost no otherwise then the hairs in a lock of Wool, or the flakes in a heap of Tow, though not altogether so loose; but the filaments are here and there twisted, as twere, or interwoven, and here and there they join and unite with one another, so as indeed the whole skin seems to be but one piece, we need not much wonder: And though these *fibres* appear not through a *Microscope*, exactly jointed and context'd, as in Sponge; yet, as I formerly hinted, I am apt to think, that could we find some way of discovering the texture of it, whil'st it invests the living Animal, or had some very easie way of separating the pulp or intercurrent juices, such as in all probability fill those *Interstitia*, without dilacerating, bruising, or otherwise spoiling the texture of it (as it seems to be very much by the ways of tanning and dressing now us'd) we might discover a much more curious texture then I have hitherto been able to find; perhaps, somewhat like that of Sponges.

That of *Chamoise Leather* is indeed very much like that of *spunk*, save onely that the *filaments* seem nothing neer so even and round, nor altogether so small, nor has it so curious joints as *spunk* has, some of which I have

have lately discover'd like those of a Sponge, and perhaps all these three bodies may be of the same kind of substance, though two of them indeed are commonly accounted Vegetable (which, whether they be so or no, I shall not now dispute) But this seems common to all three, that they undergo a tanning or dressing, whereby the interspers'd juices are wasted and wash'd away before the texture of them can be discover'd.

What their way is of dressing, or curing Sponges, I confess, I cannot learn; but the way of dressing *spunk*, is, by boiling it a good while in a strong *Lixivium*, and then beating it very well; and the manner of dressing Leather is sufficiently known.

It were indeed extremely desirable, if such a way could be found whereby the *Parenchyma* or flesh of the Muscles, and several other parts of the body might be wash'd, or wasted clean away, without vitiating the form of the *fibrous* parts or vessels of it, for hereby the texture of those parts, by the help of a good *Microscope*, might be most accurately found.

But to digress no further, we may, from this discovery of the *Microscope*, plainly enough understand how the skin, though it looks so close as it does, comes to give a passage to so vast a quantity of *excrementitious* substances, as the diligent *Sauvartius* has excellently observed it to do, in his *medicina statica*; for it seems very probable, from the texture after dressing, that there are an infinit of pores that every way pierce it, and that those pores are onely fill'd with some kind of juice, or some very pulpy soft substance, and thereby the steams may almost as easily find a passage through such a fluid *vehicle* as the vaporous bubbles which are generated at the bottom of a Kettle of hot water do find a passage through that fluid *medium* into the ambient Air.

Nor is the skin of animals only thus pervious, but even those of vegetables also seem to be the same; for otherwise I cannot conceive why, if two sprigs of *Rosemary* (for Instance) be taken as exactly alike in all particulars as can be, and the one be set with the bottom in a Glas of water, and the other be set just without the Glas, but in the Air onely, though you stop the lower end of that in the Air very carefully with Wax, yet shall it presently almost wither, whereas the other that seems to have a supply from the subjacent water by its small pipes, or *microscopical* pores, preserves its greenness for many days, and sometimes weeks.

Now, this to me, seems not likely to proceed from any other cause then the *avolation* of the juice through the skin; for by the Wax, all those other pores of the stem are very firmly and closely stop'd up. And from the more or less porousness of the skins or rinds of Vegetables may, perhaps, be somewhat of the reason given, why they keep longer green, or sooner wither; for we may observe by the bladdering and craking of the leaves of *Bays*, *Holly*, *Laurel*, &c. that their skins are very close, and do not suffer so free a passage through them of the included juices.

But of this, and of the Experiment of the *Rosemary*, I shall elsewhere more fully consider, it seeming to me an extreme luciferous Experiment, such as seems indeed very plainly to prove the *schematism* or structure of